



## APPENDIX A: QUICKSTART

This section provides step-by-step instructions for setting up a project and processing the first line of a project. It also provides instructions for simplifying the processing of subsequent lines.

Menu or button operations are shown in *italics* with a vertical bar (|) separating sub-menu operations.

This guide is not intended as an exhaustive set of detailed instructions. The user is advised to refer to the manual for details.

Where alternative operations are possible to achieve the same end, the following instructions advise arbitrary instructions for the sake of simplicity which the user may wish to modify once sufficient experience of the system has been gained.

### TO CREATE A NEW PROJECT:

- 1) Create a project directory using Windows Explorer.
- 2) Below the project directory create three directories:
  - a) "P2" – copy the P2 raw data files to this location.
  - b) "Database"
  - c) "P1"
  - d) If being used as an independent QC system then under this directory create the following directories:
    - i) "SeisPos"
    - ii) "Contractor" – copy to this location the contractor's P1 processed data files if comparisons are to be performed.
- 3) Select *Project | New* from the main menu.
  - a) Enter the project name.
  - b) *Browse* ("..." button) to locate the "P2" directory as created above.
  - c) *Browse* to locate the "Database" directory as created above.
  - d) *Browse* to locate the "P1" [or "P1 | SeisPos"] directory as created above. This is the default directory to which SeisPos will write the P190 files.
  - e) Select the acquisition system from the dropdown list. If the realtime acquisition system is Concept System's Spectra then select *SPECTRA/GATOR* for the acquisition system.
  - f) Click *OK*. The project will be created and made current.

### TO PROCESS THE FIRST LINE:

(The Main Toolbar buttons can be used, from left to right, in place of items from the Execute Menu)

- 1) Select *Execute | Input P2/9x* from the main menu.
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- a) Select the P2 file to process by checking the checkbox on the left of the list item.
  - b) Optionally enter the first and last good SP. This will be the default range for all operations except Precondition, for which the full range is used to overcome filter edge effects.
  - c) Click *OK*. The P2 input will commence as a background process, and a Log Window will be displayed. Follow any prompts during this process. The buttons on the Log Window can be used to control the process.
  - d) Once the Log Window indicates that input is complete, the *Close* button will be enabled. Click on this to close the Log Window.
- 2) From the main menu select *View | Warnings*. It is unlikely that any of these warnings will be of a critical nature preventing the successful processing of a line.
- 3) From the main menu select *Execute | Database*.
- a) From the database menu select *File | Select Line* and select the line that has been input.
  - b) Click on the *Obs* button. Browse through the observations to check that the names are relevant. If they are not (for example certain contractors give the same name to all observations of the same type), then from the database menu select *Utilities | Observations | Toggle Alias Names*.
  - c) If any corrections to the database are required, e.g. changing C-O or propagation speed etc. these are best done at this stage.
  - d) Click *Save Defaults*. This is done so that changes in the observation attributes can be easily applied to subsequent lines in the project.
  - e) Click *Nodes* then *Save Defaults*.
  - f) Exit from the database.
- 4) From the main menu select *Execute | Interactive Precondition*, and select the line that has been input. In the dialog that then appears click the *PLOT* button.
- a) Time series plots of all data is displayed. It is advisable to browse all the data, applying any edits or changes in gating, filtering and interpolations parameters if desired.
  - b) If changes have been made to parameters then clicking the *Save Default Parameters* button (3<sup>rd</sup> from right) will ensure that the new parameters will be applied to subsequent lines in the project.
  - c) Exit from Precondition. Data which has been modified in any way will be written to the database at this stage.
- 5) From the main menu select *Execute | Compass Bias Estimate* and select the line.
- a) Polynomial method, order 5, is recommended.
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- b) Change the bias thresholds if required.
  - c) Select *File | Save Parameters*.
  - d) Click on the *Run* button.
  - e) Browse the report appears once the computation has run. If any mean biases are unacceptably high then reject the highest one only and repeat the operation.
  - f) Exit from the Compass Bias module, saving compass use changes if prompted.
- 6) From the main menu select *Execute | Adjust Network* and select the line.
- a) Set the Gunarray orientation as preferred. The near compass is advised.
  - b) In the Network Adjustment control panel select the *Observations* page and click on *Observations*.
  - c) From the main menu select *View | Reports | Precondition Summary* and select the line.
  - d) Use the Precondition Summary to identify network observations with mean values which differ significantly from the nominal and optionally reject these observations in the Network Adjustment Observation list. Observations are numbered for ease of identification. Click on the *OK* button when done, and close the Precondition Summary.
  - e) In Network Adjustment control panel, click on the *Standard Deviations* button. Check that all SDs are appropriate and make any necessary corrections by selecting the SDs in the list and entering a new value in the SD entry field then clicking on *Apply*.
  - f) For RGPS bearings:
    - i) Set the Angular Units to radians.
    - ii) Measure the distance between the observation nodes on the network display by depressing the right mouse button and dragging.
    - iii) In the SD entry field enter  $2/x$  where  $x$  is the distance measured above. This will give the observation(s) an SD equivalent to 2m horizontal accuracy.
    - iv) Click on *OK*.
  - g) Click on the *Save Default Standard Deviations* button.
  - h) Select *File | Save Parameters* from the menu.
  - i) Click on the *Step* button to cycle through the first few shots to check whether there are any rejections – then click on *Resume* to adjust the remainder of the line.
  - j) Optionally monitor the unit variance from the *Time Series* page.
  - k) Once the adjustment is complete, close the Network Adjustment control panel.
- 7) From the main menu select *Execute | Quality Control* and select the line. Browse through the QC time series plots, noting any SP ranges for which the adjustment and/or data is unsatisfactory. The data can be re-appraised and re-processed in
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the Precondition module, and the adjustment re-run for the affected SP range. Plots that should be viewed are:

- a) Adjustment – unit variance should be fairly consistent and below or at 1.
  - b) Streamers – there should be no spikes in rotation, and only small spikes, if any, in stretch.
  - c) Vessel – there should be no spikes in speed or CMG
  - d) Nodes – click the *Delta* button to display the shot-to-shot movement. Check the vessel, gun-arrays and all compass nodes, first across line then along line. If any spike appears then check using Rate of Change (*dy/dx* button). If the spike is still present then this indicates erroneous data, and the magnitude indicated by the size of the spike when viewed in *Delta* mode.
- 8) From the main menu select *Execute | Output P1/90* and select the line.
- a) In the *Records* page remove any records which are not required to write to the P1/90. These will usually be most or all of the A records and the C records. Towed buoys related to streamers which are not tailbuoys would not normally be output.
  - b) Select *File | Save Parameters*, and enter an arbitrary name for the parameter file – “default” is suggested.
  - c) Click on the *OK* button to commence output and open a Log Window. Once the P1/90 output is complete check the log for errors and warnings then close the Log Window.

#### TO PROCESS SUBSEQUENT LINES:

- 1) Select *Execute | P2 Header Diff* from the main menu. Check the *Suppress H631 and H632 records* checkbox. Run a comparison between the next and previous lines. A new project should be created if there are significant differences other than the line name and endpoint coordinates. An experienced operator should be able to decide which differences are significant. If in doubt a new project should be created.
  - 2) If a new project has to be created:
    - a) The locations of the P1 and P2 files should remain the same as the current project.
    - b) The database folder name should be given a suffix which corresponds to the sequence number of the first line to be input into that database. An example is “Database\_012” if sequence 12 is the first line to be input into it.
    - c) Follow the instructions from the beginning of this document.
  - 3) Input the line as before.
  - 4) Select *Execute | Database* from the main menu and select the line just input.
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- 5) Click *Nodes* then click *Load Defaults*.
  - 6) Click *Obs* then click *Load Defaults*.
  - 7) Exit from the database.
  - 8) Precondition the line as before.
  - 9) Perform the compass bias estimate as before.
  - 10) Perform the network adjustment – just click the *Start* button.
  - 11) Browse the QC plots and re-process if required.
  - 12) Output the P1/90.
  - 13) To process a line non-interactively (only recommended if data quality is generally good) in the Input control panel enter the first and last good shotpoint and select the process as *Automatic*. No further action will be required unless problems with the data are encountered.
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